

***Response to Amendment***

1. The proposed reply filed on 31-Aug-2009 has been entered. The examiner notes that claims 1 and 5 have been cancelled and that new claims 6 and 7 have been added. Currently, claims 2-4, 6 and 7 are pending in this application.

**EXAMINER'S AMENDMENT**

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Terryence F. Chapman on 08-Dec-2009.

The application has been amended as follows:

Claim 2 is amended as follows:

The method for clarification of sludge ~~of~~ according to claim 6, wherein the specific ray is a ray which has a wavelength of the range from the ultraviolet ray region to the near-ultraviolet ray region.

Claim 3 is amended as follows:

The method for clarification of sludge ~~of~~ according to claim 6, wherein the discharged waste sludge is wash water from a pigshed, a cowshed or a chicken house, or waste

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wash water from a butchery, or a processed foods liquid of an over relishing period.

3. The following is an examiner's statement of reasons for allowance:

The closest prior art examined includes Lloyd (US 6,083,386 – previously cited), Ichiki et al. (JP 10-085771 – previously cited), Kamei et al. (JP 11-188373 A) and Billings (US 5,897,785).

With regard to independent claim 6 the instant application distinguishes itself in that the recited method comprises the following steps not disclosed in the closest prior art:

- a) recovering the first filtrate from the first filtration apparatus;
- b) simultaneously ozonizing the first filtrate and irradiating the first filtrate directly with a specific ray to obtain a first treated liquid;
- c) recovering the first treated liquid;
- d) passing the first treated liquid through a second filtration apparatus to obtain a second filtrate and a second solids residue;
- e) recovering the second filtrate from the second filtration apparatus;
- f) simultaneously ozonizing the second filtrate and irradiating the second filtrate directly with the specific ray to obtain a second treated liquid;
- g) recovering the second treated liquid; and

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h) passing the second treated liquid through a third filtration apparatus to obtain a product liquid.

The process encompassed by the steps a) through h) amounts to simultaneously ozonizing and irradiating the filtered waste water, followed by filtering the treated liquid and then repeating the sequence. Neither the repetition of the sequence nor the unexpected benefits accruing from the repetition of the steps described in the specification (as compared with a single longer treatment followed by a single filtration) in terms of decreased total treatment time and increased treatment effectiveness are anticipated or fairly suggested by the prior art examined.

With regard to independent claim 7 the instant application distinguishes itself in that the recited system comprises the following structural features not disclosed in the closest prior art:

- a) a first treatment apparatus for simultaneously ozonizing the first filtrate and irradiating the first filtrate directly with a specific ray to obtain a first treated liquid;
- b) a second filtration apparatus for separating the first treated liquid into a second filtrate and a second solids residue;
- c) a second treatment apparatus for simultaneously ozonizing the second filtrate and irradiating the second filtrate directly with the specific ray to obtain a second treated liquid; and
- d) a third filtration apparatus for separating the second treated liquid into a product liquid

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and a third solids residue,

e) wherein said first and second treatment apparatuses each comprises specific ray lamps provided parallel to each other and a guide plate for flowing the first and second filtrates in a spiral manner between the specific ray lamps.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAUL J. DURAND whose telephone number is (571)270-7076. The examiner can normally be reached on Mon - Thurs: 8:30 am - 6:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DUANE SMITH can be reached on (571)272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Matthew O Savage/  
Primary Examiner, Art Unit 1797

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